

BACKGROUND

Illinois ranks second in the nation behind Texas, with approximately 7,700 route miles of railroad track. Illinois also ranks second in the nation in origination and third in termination of hazardous materials shipments, according to the Association of American Railroads. The Chicago terminal ranks first, with East St. Louis being among the top ten in interchanges of rail traffic in the nation. The Union Pacific and the Illinois Central railroads are also two of the largest haulers of hazardous materials* which travel the length of the state.

With Illinois being both a major user and manufacturer of hazardous materials, there is a concentration of hazardous materials, and resultant transportation thereof, within and through the state. There are approximately 3,500 materials identified as hazardous by the U. S. Department of Transportation ranging from mild irritants to poisonous and radioactive materials. The Association of American Railroads' Bureau of Explosives has identified approximately 125 hazardous materials which comprise 88 percent of railroad hazardous materials shipments (see Attachment 6 for a listing of hazardous materials commonly transported by rail in the United States and the hazard class of that commodity). Shipments range from packages as small as pint containers within trailers on flat cars to as large as 42,000 gallon tank cars.

LEGISLATIVE HISTORY

On August 2, 1978, the Illinois Hazardous Materials Railroad Transportation Act (IHMRTA) was signed into law. This legislation was enacted after major railroad incidents involving hazardous materials occurred in Crescent City, Decatur, and East St. Louis. The Illinois Commercial Transportation Law (ICTL), which became effective January 1, 1986, recodified existing transportation regulations, including the IHMRTA, into one statute. The ICTL was amended effective January 1, 1988, to give the Commission jurisdiction over that portion of private facilities used in preparation for, or in receipt of, shipments of hazardous materials by railroad. On January 1, 1993, the Illinois Compiled Statutes superseded the Illinois Revised Statutes. This changed the legislative citation of the Illinois Commercial Transportation

*The Illinois Compiled Statutes define hazardous materials as "any substance or material in a quantity and form determined by the Federal Railroad Administration to be capable of posing an unreasonable risk to health, safety or property when transported in commerce."

Law from 95 Illinois Revised Statutes 18c-7404 to 625 ILCS 18c-7404. 625 ILCS 18c-7404 (a) (i) provides that:

"(a) Powers of the Commission. The Commission is authorized to regulate the transportation of hazardous materials by rail carrier by:

(i) Adopting by reference the hazardous materials regulations of the Office of Hazardous Materials Transportation and the Federal Railroad Administration of the United States Department of Transportation, as amended."

Pursuant to this hazardous materials legislation the Commission has adopted, by reference, and periodically updated applicable portions of hazardous materials rail transportation regulations contained in the Code of Federal Regulations, Title 49, Parts 100-185, the most recent being its 92 Illinois Administrative Code 1605, effective January 1, 1990.

This annual report on railroad hazardous materials transportation incidents is mandated by 625 Illinois Compiled Statutes 18c-1204 (3) Additional Functions. The first report was made in April of 1990.

COMMISSION ACTIVITIES IN RESPONSE TO LEGISLATIVE MANDATE

As a result of the IHMRTA and an initial appropriation by the General Assembly, in 1978, the Commission established a railroad hazardous materials program which was continued under the ICTL. The program has four main components: inspection, technical assistance, escort of nuclear materials (none is currently being shipped by rail), and education. Although three hazardous materials inspector positions were budgeted for the program in 1997, it should be noted that one inspector was on medical disability for the entire year.

HAZARDOUS MATERIALS INSPECTOR ACTIVITIES

Inspections

There are four categories of inspections: railroad equipment, roll-by, documentation, and shipping facility.

Railroad Equipment

Railroad hazardous materials equipment inspections are performed on a stationary hazardous material rail car normally in a railroad yard or on a shipping facility's loading and unloading tracks. This is to ensure proper placarding (placards provide recognition information in a number of ways - see Attachment 1 for

examples of placards and information they provide, particularly to emergency response personnel), marking, stencilling, tank and valve test dates, and mechanical safety features. When all of the above conform with 92 Illinois Administrative Code 1605, the rail car is in compliance with federal and state regulations.

Roll-By

A roll-by inspection involves monitoring an entire train. The location of loaded hazardous materials cars and those which have been unloaded but still contain a residue of a hazardous material is observed in relation to engines, occupied cabooses, certain other types of cars and their lading which could damage a hazardous materials car, and other hazardous materials cars. If improperly placed in the train, Commission inspectors stop the train and require proper placement.

Train crews are monitored at departure and arrival terminals to see that they have the required copies of train consists and car movement waybills. A waybill is a document listing goods and shipping instructions (see Attachment 2 for sample waybill). A consist lists the location of each car in the train and indicates if it is a hazardous materials car so the train crew will know if the car is properly placed within the train (see Attachment 3 for a sample consist). Both federal and state regulations require emergency response information to be present on a waybill, or on a waybill in conjunction with an emergency response book, or on a material safety data sheet in conjunction with a train consist (for a sample of a data sheet, see Attachment 4). In the event of an incident this information provides valuable assistance to emergency response personnel.

Roll-by field inspection data, including location, date, railroad, line ID, number of cars, and identification numbers for hazardous materials cars, is entered into a Commission computer. Hazardous materials flow statistics then may be generated for any specific time period, location, railroad, or rail line.

Documentation

Documentation inspections are conducted at rail freight offices and private shipping facilities. This involves checking for the proper preparation of shipping documents including waybills and bills of lading. A bill of lading is a document listing goods for shipment (see Attachment 5 for a typical bill of lading). A twenty-four hour emergency response telephone number must be on the shipping paper following the description of the hazardous material or on the waybill in a clearly visible location. Inspectors check for the proper shipping name, hazard class, 4-digit identification number, and weight. Hazardous materials regulations require all of the above. This is critical in the event of a mishap involving

hazardous materials cars. Emergency response personnel can get necessary and accurate information from the waybill to prepare an appropriate response to the incident.

Shipping Facilities

Shipping facilities inspections are conducted at privately owned facilities. Their purpose is to assure that loading and unloading operations are being safely performed, that rail cars are safe, and that all hazardous materials regulations are met prior to such cars being released to rail carriers for shipment.

Inspectors also meet with shippers' personnel and discuss the regulations and check bills of lading, which is a document listing goods for shipment. Inspectors met with 15 major shippers in 1997.

Technical Assistance

Commission inspectors also respond to rail related accidents/incidents involving hazardous materials. The Commission's role is to provide technical assistance to the emergency response personnel. Inspectors provide assistance by determining that product information, provided by the rail carrier or shipper to the emergency response personnel, is proper and adequate, by monitoring spill mitigation and clean-up operations, by assisting the rail carrier in determining the cause, and by checking for violations of hazardous materials regulations. Commission inspectors may respond to railroad hazardous materials accidents/incidents at anytime.

The Commission is one of eleven state agencies with a primary role in hazardous materials incident response and must designate a representative to be on the State Hazardous Materials Emergency Response Team which is formed at major accidents/incidents to coordinate response. The Commission is the only state agency with direct jurisdiction over railroads.

Statistical information on hazardous materials flow is available on request, to county-wide emergency planning districts, under Title III of the Superfund Amendments and Reauthorization Act (SARA), as well as local fire departments and emergency response agencies in general emergency response planning. Information has been provided to 16 local fire departments and emergency response agencies since 1990.

Escort of Nuclear Material

The transportation of nuclear material, in or through the state of Illinois by rail, occurs with minimal frequency. In a series of rail movements that were completed in April 1990, acting pursuant to Volume X of the ILLINOIS PLAN FOR RADIOLOGICAL

ACCIDENTS, Commission railroad hazardous materials inspectors stopped trains hauling spent nuclear fuel from Nebraska and Minnesota and Three Mile Island nuclear waste at or near the Illinois border and, along with Illinois Department of Nuclear Safety personnel, inspected and examined the shipments to see that they met hazardous materials and radioactive materials regulations.

They then escorted the trains as they moved through, or terminated in Illinois. Illinois Commerce Commission track inspectors, certified by the Federal Railroad Administration, also made a track inspection ahead of the train movements. These materials were transported in special trains which handled only two or three cask cars per shipment and traveled at a maximum speed of 35 miles per hour. These trains were also provided with an armed escort by the shipper. The Commission anticipates more of this type of rail movement in the future, such as, out of the commercial storage facility for spent nuclear fuel near Morris to regional or national repositories for radioactive materials when they are established.

Radioactive material is probably the most controversial and misunderstood class of hazardous materials being transported by railroad. Although there has never been a transportation accident during which radioactive material was released, widespread concern remains regarding its safe transportation.

Education

Pursuant to the ILCS, Commission inspectors offer training for local enforcement and emergency response agencies which is designed to acquaint participants with rail car marking and placarding requirements, and emergency response guide books. Another program is presented to fire departments concerning tank car structure and damage assessment. Commission inspectors also make presentations on the interpretation and application of the federal and state hazardous materials regulations to railroad company personnel. Since 1990, seventy presentations on hazardous materials have been made to approximately 1,570 persons affiliated with a variety of emergency planning and response teams.

The Illinois Emergency Management Agency provides hazardous materials training and certification, which emergency response personnel must have, and which our inspectors cannot provide. This, along with the increased availability of private organizations and universities offering hazardous materials training and certification, has resulted in fewer requests for presentations by our hazardous materials inspectors.

Advisory Board Participation (Accident Response Planning)

The Railroad Safety Program Administrator of the Commission's Transportation Division is a member of the Illinois Hazardous Materials Advisory Board. The Board was instrumental in setting minimum standards for hazardous materials response training, incident notification and evaluation, and emergency planning under 430 ILCS 50/4 of the Illinois Compiled Statutes. In recent years, the Illinois Emergency Management Agency has taken over some of the Illinois Hazardous Material Advisory Board's duties.

Commission Inspection Program and Personnel

Each inspector spent approximately 80% of his time at various railroad sites and industrial locations around the state, checking for compliance with the railroad hazardous materials regulations. Each major railroad yard and interchange point, where hazardous materials can be found in abundance, was monitored seven to eight times per year. Railroad shippers of hazardous materials also are monitored on a regular basis. The remaining non-field time is spent in the following areas: answering Freedom of Information inquiries under the Illinois Responsible Property Transfer Act of 1988, concerning spilled hazardous materials along railroad property, for buyers or sellers; responding to inquiries and complaints from the public, shippers and railroads dealing with hazardous materials; and responding to Illinois Geological Agency requests for information about railroad hazardous materials spills. The latter is necessary for environmental site assessments, which are prepared for the Illinois Department of Transportation. The information will be used to evaluate the possible presence of hazardous materials on property to be acquired for road improvements. Any remaining time is spent entering hazardous materials inspection data into our computer, and other office activity related to the hazardous materials program.

The three inspectors who performed the work documented in this report have over 86 years Commission hazardous materials experience and railroad experience combined. Their regulatory enforcement and emergency response training has been ongoing since joining the staff. Since the inception of the program, Commission inspectors have received training at the Transportation Safety Institute in Oklahoma City, Oklahoma; the Colorado Training Institute in Denver, Colorado; the Fire Service Institute at the University of Illinois in Champaign; the Federal Railroad Administration Hazardous Materials training in Kansas City, Missouri; Federal Railroad Administration's Orientation Course in Washington, D.C.; Advanced Hazardous Materials Regulations in Atlanta, Georgia; International Maritime Dangerous Goods Course in Seattle, Washington; Advanced Hazardous Materials Course in Denver, Colorado; Tank Car Course in Longview, Texas; Radar and Tank Car Course in Valparaiso, Indiana and a Container Factory in Chicago, Illinois.

During 1997, one inspector attended the Transportation Safety

Institute, Hazardous Materials Recurring Seminar (Oklahoma City, OK) which is provided by the Federal Railroad Administration.

DATA REGARDING ACCIDENTS DURING 1997 REQUIRED BY LAW

Specific information required by 625 Illinois Compiled Statutes 18c-1204 is shown in tabular form on the following pages.

The applicable Section states: "The staff shall prepare and distribute to the General Assembly, in April of each year, a report on railway accidents in Illinois which involve hazardous materials.

The report shall include the location, substance involved, amounts involved, and the suspected reason for each accident. The report shall also reveal the rail line and point of origin of the hazardous material involved in each accident."

For your convenience, that report is divided into three categories.

Table A shows railroad derailments where hazardous materials were being transported in the derailed railroad equipment and a hazardous material release occurred.

Table B shows railroad derailments where hazardous materials were being transported in the train and railroad equipment derailed, but no hazardous material was released.

Table C shows hazardous material releases from railroad equipment where no derailment occurred.

The location column in Tables A, B, and C indicates the county where the accident/incident occurred and the nearest identifiable location. Information for all three tables was obtained from reports to the Commission and from the United States Department of Transportation, Research and Special Programs Administration or Illinois railroads since point of origin of the shipment information was unavailable from Commission sources.

Three categories of information not specifically requested by the General Assembly have been added to make the report more useful. One of these categories is "Amount Released". This is important since the category "Amount Involved", cited in the statute, could easily be confused with the category of Amount Released. Amount Involved is how much was being transported - Amount Released is how much was actually released to the environment. The second added category is the type of railroad equipment involved since it was felt that information would be useful in interpreting the report. The third added category is the date of the incident. This information helps to identify the specific incident.

In the tables, railroad companies are designated by their

initials. A listing of the complete names of each company follows Tables A, B, and C.

STATE AND FEDERAL PARTICIPATION PROGRAM

Under federal law 49 CFR, Part 212, which became effective July 24, 1992, individual states are authorized to participate in the Railroad Hazardous Materials Inspection Program. This program is under the supervision of the FRA and allows state inspectors the same authority as federal inspectors in safety inspections and investigations, with respect to the transportation of hazardous materials, under the Federal Hazardous Materials Transportation Uniform Safety Act of 1990.

In order to participate in the Federal Railroad Administration Hazardous Materials inspection program, the state has to annually enter into a federal-state participation agreement. If such an agreement is not entered into the state will be preempted from rail hazardous materials enforcement activity.

Since being certified in 1993 by the Federal Railroad Administration, the Commission's Hazardous Materials Inspectors have been utilizing federal report forms as called for under Federal Railroad Safety Program State Participation Agreement. Inspectors also continue to use the state inspection report forms since federal forms do not require all the data necessary to prepare this report and respond to public inquiries and complaints concerning hazardous materials transportation. However, any violations found which the inspectors recommend action be taken on must be handled through the Federal Railroad Administration under the federal-state agreement.

Under the Federal Railroad Administration program, continuing federal training for the hazardous materials inspectors is also provided at Federal Railroad Administration's cost.

QUALIFICATIONS FOR A HAZARDOUS MATERIALS INSPECTOR

CFR 49, §212.227 Hazardous materials inspectors

(a) The hazardous materials inspector is required, at a minimum, to be able to conduct independent inspections to determine compliance with all pertinent sections of the Federal hazardous materials regulations (49 CFR parts 171 through 174, 179 and 180), to make reports of those inspections and findings, and to recommend the institution of enforcement actions when appropriate to promote compliance.

(b) The hazardous materials inspector is required, at a minimum, to have at least two years of recent experience in

developing, administering, or performing managerial functions related to compliance with the hazardous materials regulations; four years of recent experience in performing functions related to compliance with the hazardous materials regulations; or a bachelor's degree in a related technical specialization. Successful completion of the apprentice training program may be substituted for this requirement.

(c) The hazardous materials inspector shall demonstrate the following specific qualifications;

(1) A comprehensive knowledge of the transportation and operating procedures employed in the railroad, shipping, or manufacturing industries associated with the transportation of hazardous materials;

(2) Knowledge and ability to understand and detect deviations from the Department of Transportation's Hazardous Materials Regulations, including Federal requirements and industry standards for the manufacturing of bulk packaging used in the transportation of hazardous materials by railroad;

(3) Knowledge of the physical and chemical properties and chemical hazards associated with hazardous materials that are transported by railroad;

(4) Knowledge of the proper remedial actions required to bring railroad, shipper, and/or manufacturing facilities into compliance with the Federal regulations; and

(5) Knowledge of the proper remedial actions required when a hazardous materials transportation accident or incident occurs.

To be certified, an inspector must spend time in the field with a Federal Railroad Administration Hazardous Materials Specialist and pass a written examination on the Hazardous Materials Regulations.